

US EPA ARCHIVE DOCUMENT

List of analytes with reported Maximum Concentration Limits, Method Detection Limits, Reporting Limits, and Recovery Data for milk samples.

compound	MCL ^a ng/mL L	MDL ^b ng/mL	Reporting Limit ng/mL	Recovery Data			
				Whole Milk ^c		2% Milk ^d	
				% recovery		% recovery	
				avg	dev	avg	dev
dichlorodifluoromethane		0.3	0.50	58.4	27.8	277.4	207.6
chloromethane		0.06	0.10	233.2	156.9	254.0	69.0
vinylchloride	2	0.03	0.10	271.4	140.9	191.6	58.4
bromomethane		0.02	0.10	308.4	137.7	212.0	54.4
chloroethane		0.03	0.10	345.5	169.0	210.6	60.5
trichlorofluoromethane		0.04	0.10	390.6	214.5	192.5	85.4
ether		0.05	0.05	187.8	54.5	113.0	23.6
acetone		0.01	0.10		NA ^e		NA
1,1-dichloroethene	7	0.05	0.05	430.9	198.3	191.5	89.3
iodomethane		0.06	0.05	270.3	155.6	180.2	52.6
allylchloride		0.05	0.05	173.8	87.0	138.7	47.7
acetonitrile		0.06	0.01	90.1	5.7	108.5	6.2
methylenechloride	5	0.02	0.01	116.8	48.0	100.9	27.7
MTBE		NA ^f	0.01		NA		NA
acrylonitrile		0.03	0.05	102.8	5.7	90.8	8.5
<i>trans</i> -1,2-dichloroethene	100	0.07	0.05	124.4	47.1	94.5	32.1
1,1-dichloroethane		0.03	0.01	141.7	57.4	106.4	36.9
methacrylonitrile		0.03	0.01	107.3	10.5	92.0	7.3
2-butanone		0.03	0.01	121.3	13.3	205.9	36.5
propionitrile		1.6	2.0		NA ^g		NA
2,2-dichloropropane		0.03	0.05	127.3	20.7	102.5	58.5
<i>cis</i> -1,2-dichloroethene	70	0.01	0.01	118.2	14.9	106.8	25.0

chloroform	80 ^h	0.01	0.01	130.0	22.2	113.9	22.8
bromochloromethane		0.02	0.01	101.2	8.6	82.4	10.8
1,1,1-trichloroethane	200	0.02	0.05	110.1	20.2	95.0	47.4
1,1-dichloropropene		0.02	0.05	120.6	27.1	106.2	38.7
carbontetrachloride	5	0.1	0.10	118.9	39.9	86.5	32.7
1,2-dichloroethane	5	0.02	0.05	99.3	8.3	79.6	9.7
benzene	5	0.01	0.01	97.5	11.5	98.9	34.9
trichloroethene	5	0.01	0.01	89.6	4.9	82.7	5.1
1,2-dichloropropane	5	0.01	0.01	108.9	5.9	89.6	6.4
methylmethacrylate		0.1	0.05	112.2	9.5	95.3	6.7
bromodichloromethane	80 ^h	0.01	0.01	96.4	6.4	85.5	5.9
1,4-dioxane		1.	1.0	65.1	12.0	72.5	12.8
dibromomethane		0.03	0.01	99.4	4.6	82.1	4.5
4-methyl-2-pentanone		0.06	0.05	131.9	11.8	111.6	10.9
<i>trans</i> -1,3-dichloropropene		0.07	0.01	115.4	4.7	96.7	5.7
toluene	1000	0.01	0.01	95.5	6.3	98.2	14.4
pyridine		2.7	3.0	127.7	17.9	152.4	27.3
<i>cis</i> -1,3-dichloropropene		0.1	0.02	92.4	4.6	80.8	6.9
ethylmethacrylate		0.05	0.01	130.1	9.3	106.8	9.1
2-hexanone		0.04	0.01	136.9	12.7	116.9	16.9
1,1,2-trichloroethane	5	0.03	0.05	92.1	3.6	80.0	5.3
tetrachloroethene	5	0.01	0.01	86.1	8.7	88.6	15.9
1,3-dichloropropane		0.02	0.01	105.2	4.2	89.1	5.5
dibromochloromethane	80 ^h	0.03	0.01	94.7	6.0	84.2	4.3
2-picoline		0.3	1.0	105.6	28.8	135.3	59.7
1,2-dibromoethane	0.05	0.03	0.01	114.1	5.1	95.1	7.5
chlorobenzene	100	0.01	0.05	104.0	5.3	98.0	4.2
1,1,1,2-tetrachloroethane		0.04	0.01	86.7	3.9	76.5	5.6
ethylbenzene	700	0.02	0.01	82.9	8.3	86.1	13.7
<i>m,p</i> -xylenes	10000 ⁱ	0.01	0.01	79.6	8.0	82.8	11.7
styrene	100	0.01	0.01	99.4	5.2	90.3	4.3

<i>o</i> -xylene	10000 ⁱ	0.01	0.01	89.1	4.4	86.3	3.7
isopropylbenzene		0.03	0.01	76.4	13.4	81.0	17.0
bromoform	80 ^h	0.06	0.02	104.1	8.3	89.5	11.1
<i>cis</i> -1,4-dichloro-2-butene		0.3	0.05	118.4	10.4	97.0	14.4
1,1,2,2-tetrachloroethane		0.03	0.01	74.1	4.2	66.5	7.1
1,2,3-trichloropropane		0.02	0.01	196.7	14.6	143.4	24.4
propylbenzene		0.09	0.10	79.3	12.6	86.0	19.3
<i>trans</i> -1,4-dichloro-2-butene		0.1	0.02	123.3	9.3	103.5	15.6
1,3,5-trimethylbenzene		0.03	0.01	69.8	11.3	77.5	16.0
bromobenzene		0.05	0.01	109.4	5.7	96.2	7.3
2-chlorotoluene		0.03	0.01	85.2	11.2	85.9	12.1
4-chlorotoluene		0.02	0.01	92.9	8.8	90.4	8.2
pentachloroethane		0.09	0.02	71.6	3.7	63.4	4.6
<i>tert</i> -butylbenzene		0.1	0.10	74.8	12.2	85.6	19.5
1,2,4-trimethylbenzene		0.04	0.01	75.4	9.2	80.3	11.4
<i>sec</i> -butylbenzene		0.01	0.05		NA ⁱ	87.9	26.2
<i>p</i> -isopropyltoluene		0.01	0.01	72.1	28.1	94.1	24.9
1,3-dichlorobenzene	600	0.05	0.01	87.2	5.4	86.6	5.6
1,4-dichlorobenzene	75	0.03	0.01	91.4	5.8	88.9	6.0
<i>n</i> -butylbenzene		0.09	0.02	72.4	13.0	86.1	24.2
1,2-dichlorobenzene		0.01	0.01	90.9	6.1	85.8	4.9
acetophenone		0.1	0.02	141.5	60.1	127.5	66.6
1,2-dibromo-3-chloropropane	0.2	0.03	0.01	100.4	9.7	101.0	16.0
hexachlorobutadiene		0.05	0.01	82.9	18.9	85.5	24.7
nitrobenzene		0.1	0.05	136.3	44.9	155.2	62.0
1,2,4-trichlorobenzene	70	0.03	0.01	91.9	6.7	88.0	8.0
naphthalene		0.03	0.01	89.7	7.8	85.0	10.6
1,2,3-trichlorobenzene		0.05	0.01	74.7	5.9	71.8	6.2
2-methylnaphthalene		0.1	0.02	85.6	11.5	73.2	16.4
1-methylnaphthalene		0.2	0.04	76.2	10.2	70.8	10.9

- ^a The MCL are taken from <http://www.epa.gov/safewater/mcl.html>
- ^b The MDL values were determined by 8 replicate analyses of 10, 1.0, 0.2, and 0.04 ng/mL milk samples. The MDL values were determined as 3 times the standard deviation of replicate runs using the concentrations that were approximately 3 times the resultant MDL.
- ^c Recoveries are the surrogate corrected results compared to the known amount (10 ng/mL whole milk). Recoveries are the average of 5 replicate analyses of 25 mL aliquots. One standard deviation of the average is also presented.
- ^d Recoveries are the surrogate corrected results compared to the known amount (10 ng/mL whole milk). Recoveries are the average of 4 replicate analyses of 25 mL aliquots. One standard deviation of the average is also presented.
- ^e Not available. Calculation of acetone performance at the concentration used for this evaluation could not be done due to the elevated concentration already in milk.
- ^f MTBE was not in the original analyte mix. This analyte was added later when presence detected.
- ^g Calculation of proprionitrile could not be performed due to periodic chromatographic overlapping with benzene-*d6*.
- ^h This MCL is for total of trihalomethanes.
- ^j The MCL is for total xylenes.
- ^j The compound *sec*-butylbenzene could not be determined in this sample due to presence of co-eluting limonene in the sample selected for this evaluation.